Geometry Test Review Unit 4 – Congruent Triangles

Name_____
Date_____Block_____

True or False. Please write out the entire word.

1. T An isosceles triangle can have three congruent sides.
2. T An equilateral triangle is always equiangular.
3. F Angle – Side – Side is a shortcut that can be used to prove that two triangles are congruent.
4. T The two non-right angles of a right triangle are complementary.
5. F If $\triangle MPR \cong \triangle NSW$, then $\angle W \cong \angle M$.

Fill in the blank with the correct letter using the word bank at the right.
None of the answers will be repeated. Not all answers are used.

Word Bank	
A.	right
B.	isosceles
C.	obtuse
D.	acute
E.	equilateral
F.	scalene
G.	base
H.	vertex
I.	legs
J.	hypotenuse
K.	equiangular

H 6. The angle formed by the legs of an isosceles triangle is called the _____ angle.

E 7. All equiangular triangles are also _____.

G 8. In an isosceles triangle, the _____angles are congruent.

D 9. A triangle with angles 40^0, 80^0 and 60^0 is called a(n) _____triangle.

J 10. The side opposite the 90^0 angle in a right triangle is called the _____.

B 11. A triangle that has at least two equal sides is called _____.

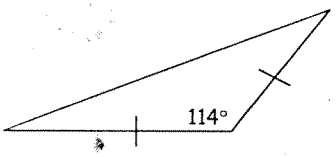
I 12. The sides opposite the acute angles in a right triangle are called _____.

C 13. If a triangle has angles that measure 50^0, 100^0 and 30^0, then it is a(n) _____triangle.

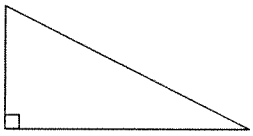
F 14. If all three sides of a triangle have different lengths, then the triangle is _____.

A 15. A triangle with angles measuring 40^0, 90^0 and 50^0 is called a(n) _____triangle.

Classify each triangle by its sides and angles. The answers appear in the word bank above. (2 pts each)



16. sides: isosceles
angles: obtuse



17. sides: scalene
angles: right

Given $\triangle ABC \cong \triangle XYZ$, fill in the correct angle, segment, or degree, or measure in problems 18 - 25.

18. $\angle A \cong$ $\angle X$

19. $\overline{BC} \cong$ $\overline{YZ}$

20. $\overline{ZX} \cong$ $\overline{AC}$

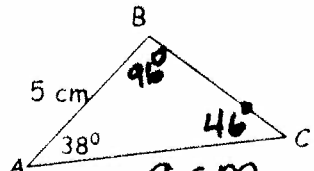
21. $\triangle BAC \cong$ $\triangle YXZ$

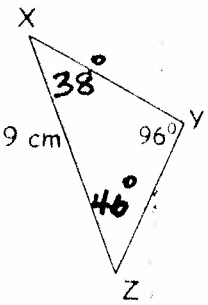
22. $m\angle X =$ $38°$

23. $AC =$ 9 cm

24. $m\angle C =$ $46°$

25. $\triangle ZXY \cong$ $\triangle CAB$





Find the value of each angle in the picture shown. *Fill in the picture with your measures first*

* ext. $\angle$s thm

26. $m\angle 1 =$ $104°$

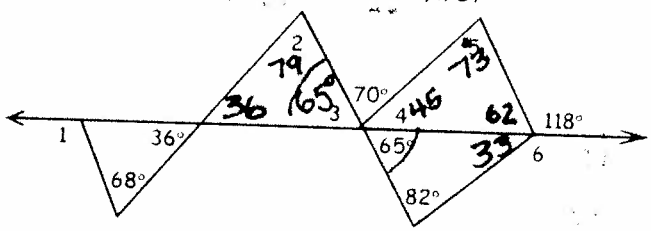
27. $m\angle 2 =$ $79°$

28. $m\angle 3 =$ $65°$

29. $m\angle 4 =$ $45°$

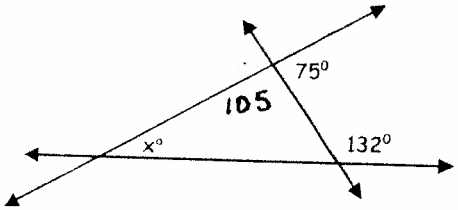
30. $m\angle 5 =$ $73°$

31. $m\angle 6 =$ $147°$

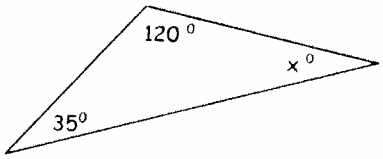


Find the value of x in each problem.

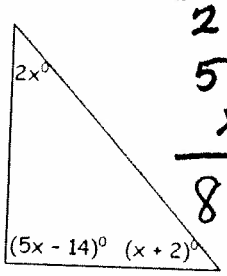
32. $x =$ 27



33. $x =$ 25



34. $x =$ 24



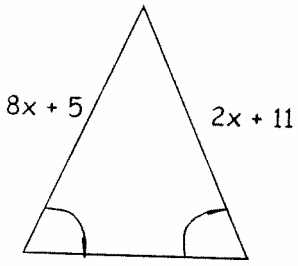
$2x$

$5x - 14$

$x + 2$

$8x - 12 = 180$

35. $x =$ 1



30

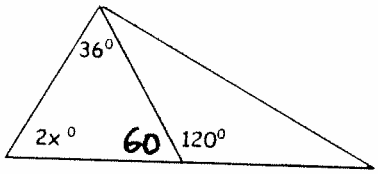
$8x + 5 = 2x + 11$

$6x = 6$

$x = 1$

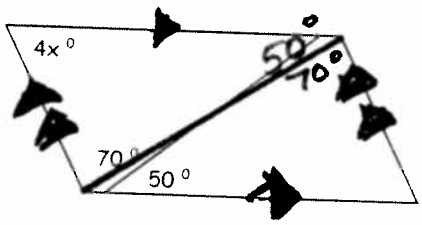
36. $x =$ $42°$

ext $\angle$s thm



$2x + 36 = 120$

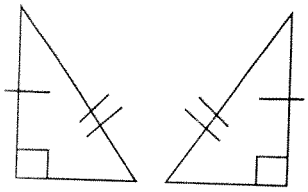
37. $x =$ 15



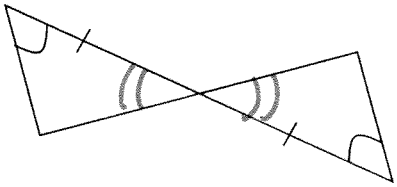
$4x + 70 + 50 = 180$

For problems 38 - 46, mark the picture (if applicable). Write why the triangles are congruent (SSS, SAS, ASA, AAS, or HL) in the blanks provided. If the triangles are not congruent, write NOT ≅.
Your marks MUST be accurate and match your answers!

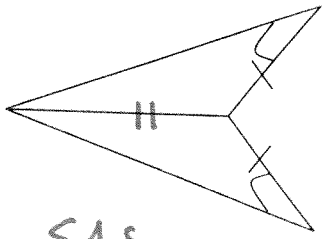
38. HL



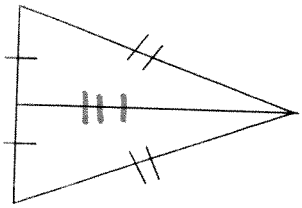
39. ASA



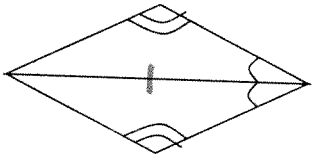
40. NOT ≅



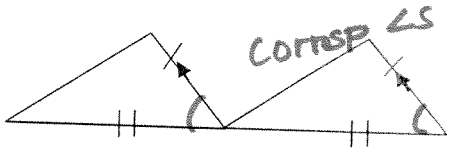
41. SSS



42. AAS

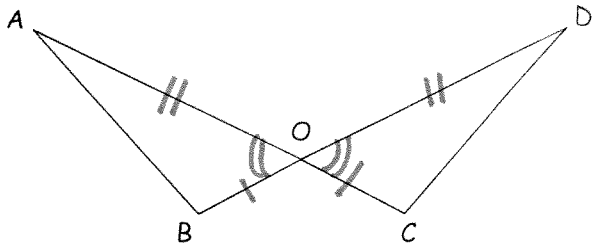


43. SAS



Complete the proof with the correct reasons.
(Mark the given on the picture1)

44. Given: $\overline{BO} \cong \overline{CO}$, $\overline{AO} \cong \overline{DO}$
Prove: $\Delta ABO \cong \Delta DCO$



Statements	Reasons
1. $\overline{BO} \cong \overline{CO}$, $\overline{AO} \cong \overline{DO}$	1. Given
2. $\angle AOB \cong \angle DOC$	2. Vertical ∠s are ≅
3. $\Delta ABO \cong \Delta DCO$.	3. SAS